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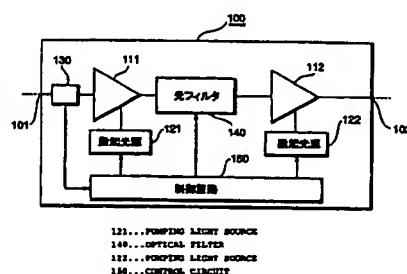
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(54) Title: OPTICAL AMPLIFIER AND OPTICAL AMPLIFYING METHOD

(54) 発明の名称: 光増幅器及び光増幅方法



(57) Abstract: An optical filter (140) has a loss spectrum such that the inclination  $dL/d\lambda$  of the loss  $L$  (dB) to the wavelength  $\lambda$  (nm) is variable in the wavelength range of multiplexed signal light. A control circuit (150) measures the power of the signal light branched by an optical coupler (130), controls the power of the pumping light fed from pumping light sources (121, 122) to optical amplifying units (111, 112) based on the measured power of the input signal light so that the measured power may be a certain target value, and controls the inclination  $dL/d\lambda$  based on the power.

(57) 要約:

光フィルタ140は、多重信号光の波長帯域において損失 $L$  (dB) の波長入 (nm) に対する傾き  $dL/d\lambda$  が可変である損失スペクトルを有している。制御回路150は、光カプラ130により分岐された信号光のパワーを検出し、その入力信号光パワーに基づいて、出力信号光のパワーが一定の目標値になるよう、励起光源121, 122から光増幅部111, 112へ供給される励起光のパワーを制御する。また、制御回路150は、その入力信号光パワーに基づいて、光フィルタ140の傾き  $dL/d\lambda$  を制御する。

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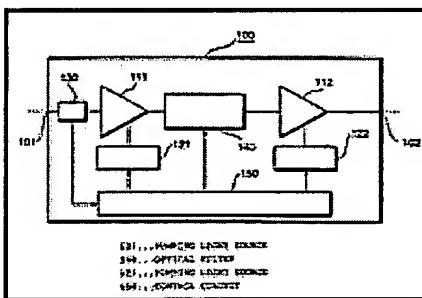
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## Abstract

An optical filter (140) has a loss spectrum such that the inclination  $dL/d\lambda$  of the loss L (dB) to the wavelength  $\lambda$  (nm) is variable in the wavelength range of multiplexed signal light. A control circuit (150) measures the power of the signal light branched by an optical coupler (130), controls the power of the pumping light fed from pumping light sources (121, 122) to optical amplifying units (111, 112) based on the measured power of the input signal light so that the measured power may be a certain target value, and controls the inclination  $dL/d\lambda$  based on the power.



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